Bank App

Teller
- The bank teller should be able to modify  the balance of an account through deposit/withdrawal transactions.

Account Holder
- The bank account holder should be able to register and login to the app.
- The app should display the account balance.
- The app should allow the user to transfer funds to both internal(same bank) and external(other bank) users.

The account holder should expose the following APIs:

| API endpoint | Register | |
|---|---|---|
| method | Post | |
| **Request Params** | **Type** | **Description** |
| first_name | String | Input the first name of the user who creates the account |
| middle_initial | String | Input the middle initial of the user who creates the account. if there's no middle initial, simply input N/A |
| last_name | String | Input the last name of the user who creates the account |
| password | String | A strong password for accessing the account and for security measures |
| email_address | String | All transactions and events will be sent to the provided email of the user |
| mobile_number | Int | All otp, pin in transactions and events will be sent to the provided mobile number of the user |
| This API endpoint allows a new bank account holder to register by submitting their personal and contact information. The information collected during registration is used for account creation, authentication, and future communication, such as OTPs and transaction notifications. | | |
| **Success** | | |
| **Redirect Params** | **Type** | **Description** |
| account_succesfully_created | Boolean | A boolean indicator of whether the creation is successful or not |
| bearer_token | String | Bearer token (JWT) is provided after successful creation of the account |

| account_number | Int | Provide an account number for uniqueness of the account and also security measure |
|---|---|---|
| **Sample Redirection URL** | | |
| https://bank-client.com?account_successfully_created=true | | |
| **Fail** | | |
| **Redirect Params** | **Type** | **Description** |
| error_message | String | Error message when creation of account is unsuccessful |
| **Sample Redirection URL** | | |
| https://bank-client.com/register?error_message=Email%20address%20already%20registered | | |

| API endpoint | Login | |
|---|---|---|
| Method | Post | |
| **Request Params** | **Type** | **Description** |
| account_number | Int | an account number for uniqueness of the account and also security measure |
| password | String | A strong password for accessing the account and for security measures |
| This API endpoint allows authenticating an account holder using their account number and password. | | |
| **Success** | | |
| **Redirect Params** | **Type** | **Description** |
| login_successful | Boolean | A boolean indicator whether login is successful or not |
| **Sample Redirection URL** | | |
| https://bank-client.com/dashboard?login_success=true&user_id=abc123 | | |
| **Fail** | | |
| **Redirect Params** | **Type** | **Description** |
| error_message | String | Error message provides account number is wrong or the password is incorrect |
| **Sample Redirection URL** https://bank-client.com/login?error_message=Invalid%20email%20or%20password | | |

| API endpoint | account_balance | |
|---|---|---|
| Method | Get | |
| **Request Params** | **Type** | **Description** |
| authorization | String | Bearer token (JWT) provided after successful login to identify and authenticate the account holder |
| account_number | Int | The account number to retrieve the balance for. If the account is tied directly to the authenticated user, this may be optional |

This API endpoint allows authenticated account holders to securely retrieve the current balance of their bank account. It ensures that only authorized users can access sensitive financial data by requiring a valid authentication token. This API is essential for enabling users to view their available funds before performing transactions such as deposits, withdrawals, or transfers.

**Success**

| **Redirect Params** | **Type** | **Description** |
|---|---|---|
| validation | Boolean | A boolean indicator whether the owner is legit or not |

**Sample Redirection URL**

https://bank-client.com?validation=true

**Fail**

| **Redirect Params** | **Type** | **Description** |
|---|---|---|
| error_message | String | Error message provide the exact account number and the token of your account |

**Sample Redirection URL**

 https://bank-client.com/account/balance?error_message=Unauthorized%20access%2C%20please%20log%20in

| API endpoint | fund-transfer-internal | |
|---|---|---|
| Method | Post | |
| **Request Params** | **Type** | **Description** |
| transaction_amount | Int | The amount to be transferred |
| source_account_no | Int | The account number of the sender |
| recipient_account_no | Int | The account number of the recipient (within the same bank) |
| redirect_url | String | The URL to redirect the user after the process is complete |

| This API endpoint transfers funds between two accounts within the same bank (internal transfer) |||
|---|---|---|
| **Success** |||
| **Redirect Params** | **Type** | **Description** |
| sent_succesfully | Boolean | A boolean indicator of whether the transaction is complete or not |
| **Sample Redirection URL** |||
| https://bank-client.com?fund_transfer_success=true&transaction_id=2343241 |||
| **Fail** |||
| **Redirect Params** | **Type** | **Description** |
| error_message | String | Error message provide the exact recipient account no |
| **Sample Redirection URL** |||
| https://bank-client.com?error_message=User%20is%20not%20authorized |||

| **API endpoint** | **fund-transfer-external** ||
|---|---|---|
| Method | Post ||
| **Request Params** | **Type** | **Description** |
| transaction_amount | Int | The amount to be transferred |
| source_account_no | Int | The account number of the sender |
| recipient_account_no | Int | The account number of the recipient (within the same bank) |
| recipient_bank_code | Int | The bank code of the recipient's (external) bank |
| redirect_url | String | The URL to redirect the user after the transaction process is completed |
| This API endpoint transfers funds from an internal account to an account in another bank |||
| **Success** |||
| **Redirect Params** | **Type** | **Description** |
| sent_succesfully | Boolean | A boolean indicator of whether the transaction is complete or not |
| **Sample Redirection URL** |||
| https://bank-external-client.com?fund_transfer_success=true&transaction_id=75464342 |||
| **Fail** |||
| **Redirect Params** | **Type** | **Description** |
| error_message | String | Error message provide the exact recipient account no |
| **Sample Redirection URL** |||

https://bank-client.com?error_message=Insufficient%20balance%20for%20external%20transfer

| API endpoint | fund-withdraw-internal | |
| --- | --- | --- |
| Method | Post | |
| **Request Params** | **Type** | **Description** |
| transaction_amount | Int | The amount to be withdraw |
| account_no | Int | The account number to withdraw from |
| This API endpoint deducts funds from a user's account within the same bank (initiated by a teller or the user | | |
| **Success** | | |
| **Redirect Params** | **Type** | **Description** |
| withdraw_succesfully | Boolean | A boolean indicator of whether the withdrawal is complete or not |
| **Sample Redirection URL** | | |
| https://bank-client.com/withdrawal?withdrawal_success=true&transaction_id=128937 | | |
| **Fail** | | |
| **Redirect Params** | **Type** | **Description** |
| error_message | String | Error message provides the exact account no |
| **Sample Redirection URL** | | |
| https://bank-client.com/withdrawal?error_message=Insufficient%20balance | | |
| **API endpoint** | **fund-withdraw-external** | |
| Method | Post | |
| **Request Params** | **Type** | **Description** |
| transaction_amount | Int | The amount to withdraw |
| source_account_no | Int | The internal account number to withdraw from. |
| recipient_bank_code | Int | Bank or wallet code for external transfer |
| recipient_account_no | Int | The account number to withdraw from |
| redirect_url | String | URL to redirect after processing. |
| This API endpoint deducts funds from a user's account within the same bank (initiated by a teller or the user | | |
| **Success** | | |
| **Redirect Params** | **Type** | **Description** |
| withdrawal_success | Boolean | A boolean indicator of whether the withdrawal is complete or not |

| Sample Redirection URL | | |
|---|---|---|
| https://bank-client.com/withdrawal-external?withdrawal_success=true&transaction_id=829104 | | |
| **Fail** | | |
| **Redirect Params** | **Type** | **Description** |
| error_message | String | Error message provides the exact account no |
| **Sample Redirection URL** | | |
| https://bank-client.com/withdrawal-external?error_message=Invalid%20recipient%20bank%20code | | |

The account teller should expose the following APIs:

| API endpoint | teller-transaction | |
|---|---|---|
| Method | Post | |
| **Request Params** | **Type** | **Description** |
| teller_id | Int | Unique ID of the teller performing the transaction |
| account_no | Int | Account number to be modified. |
| transaction_type | String | "deposit" or "withdrawal" |
| transaction_amount | Int | Amount to deposit or withdraw. |
| This API endpoint allows a bank teller to perform a **deposit** or **withdrawal** on a customer's account. | | |
| **Success** | | |
| **Redirect Params** | **Type** | **Description** |
| account_no_correct | Boolean | A boolean indicator of whether the account number exists |
| **Sample Redirection URL** | | |
| https://bank-client.com/teller?transaction_success=true&transaction_id=998877 | | |
| **Fail** | | |
| **Redirect Params** | **Type** | **Description** |
| error_message | String | Error message double check the account number |
| **Sample Redirection URL** | | |
| https://bank-client.com/teller?error_message=Account%20not%20found%20or%20invalid%20teller%20ID | | |

| API endpoint | teller-close-account | |
|---|---|---|
| Method | delete | |
| **Request Params** | **Type** | **Description** |
| teller_id | Int | The ID of the teller performing the action. |
| account_no | Int | The account number to be closed. |
| reason | String | Reason for account closure (e.g., "Customer request", "Fraudulent activity"). |

This API endpoint Allow authorized **bank tellers** to **close and delete** a customer's account permanently. Once closed, the account cannot be accessed, and all associated data (like balance and transactions) is archived or deleted depending on policy.

**Success**

| **Redirect Params** | **Type** | **Description** |
|---|---|---|
| account_deleted | Boolean | A boolean indicator of whether the account is deleted or not |

**Sample Redirection URL**

https://bank-client.com/teller/close-account?close_success=true&account_no=9876543210

**Fail**

| **Redirect Params** | **Type** | **Description** |
|---|---|---|
| error_message | String | Error message double check the account number |

**Sample Redirection URL**

https://bank-client.com/teller/close-account?error_message=Account%20not%20found%20or%20already%20closed